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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,976	BOYCE ET AL.	
	Examiner	Art Unit	
	ANNER HOLDER	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/07/09; 08/08/08; 01/08/07; 10/30/06; 07/21/05*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 11-12, 17-21, 26, 31-36, 41, 43-46, 47-48 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsushima et al. US 6,535,717.

3. As to claim 1, Matsushima teaches encoding a first signal representing content using at least source encoding generating successive independent decoding segments; [fig. 3; fig. 5; col. 9 lines 1-19, 42-50; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] encoding a second signal representing the content using at least source encoding generating successive independent decoding segments respectively corresponding to the independent decoding segments of the first encoded signal; [fig. 3; fig. 5; col. 9 lines 1-19; 42-50; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65;

fig. 7(15a, 15b); col. 12 lines 32-66] generating a composite signal comprising the first and second encoded signals, [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] wherein the first encoded signal is delayed with respect to the second encoded signal; [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] and if an error is detected in the composite signal during at least a portion of an independent decoding segment of the delayed first encoded signal, decoding the corresponding independent decoding segment of the received second encoded signal to reproduce the content, [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] otherwise, decoding the received delayed first encoded signal to reproduce the content. [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66]

4. As to claim 2, Matsushima teaches each independent decoding segment has a time duration; [abstract; fig. 3; fig. 5; col. 8 line 56 – col. 9 line 19; figs. 9-10; fig. 14; col. 20 lines 15-59 col. 21 lines 3-51; col. 22 lines 9-52; col. 23 lines 40-59; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] and in the generating step, the first encoded signal is delayed by the time duration with respect to the second encoded signal. [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56]

5. As to claim 3, Matsushima teaches wherein the content is video, [col. 9 lines 30-39; col. 11 lines 51-62] and further comprising the step of smoothing the video image during a transition between decoding one of the received delayed first and second encoded signals and the other one of the received delayed first and second encoded signals. [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52; abstract; fig. 3; fig. 5; col. 8

line 56- col. 9 line 14; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66]

6. As to claim 4, Matsushima teaches the smoothing step [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52] comprises the step of gradually changing the quality of the video image during the transition. [fig. 11; col. 22 lines 3-52]

7. As to claim 5, Matsushima teaches wherein the smoothing step includes introducing hysteresis for transitions. [fig. 6; col. 11 lines 1-62; fig. 11; col. 22 lines 3-52; col. 26 lines 6-34]

8. As to claim 11, Matsushima teaches wherein the step of encoding the first content representative signal comprises the step of generating a first encoded signal which is backwards compatible [fig. 3; fig. 5; col. 9 lines 5-14, 42-50] and the step of encoding the second content representative signal comprises generating a second encoded signal which is robust relative to the encoding of the first content representative signal. [fig. 3; fig. 5; col. 9 lines 5-14, 42-50; encoder encodes the signal with the robust technique creating a lower quality signal]

9. As to claim 12, Matsushima teaches wherein steps of encoding the first and second encoded signals further comprises the steps of system encoding the source encoded content representative signal [fig. 3; fig. 5; col. 9 lines 5-19, 42-50] and channel encoding the system encoded content representative signal. [fig. 3; fig. 5; col. 9 lines 5-19, 42-50]

10. As to claim 17, Matsushima teaches encoding a first signal representing a video signal comprising successive video pictures; [fig. 3; fig. 5; col. 9 lines 1-19, 42-50]

encoding a second signal representing the video signal; [fig. 3; fig. 5; col. 9 lines 1-19, 42-50] generating a composite signal comprising the first and second encoded signals, [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] wherein the first encoded signal is delayed with respect to the second encoded signal; [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] and decoding the first encoded signal to generate a first received video signal comprising successive video pictures; [figs. 5-7; col. 9 lines 1-19; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] decoding the second encoded signal to generate a second received video signal comprising successive video pictures respectively corresponding to the video pictures in the first received video signal; [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66; fig. 5; fig. 7; col. 9 lines 1-19] and if an error is detected in the composite signal during at least a portion of the delayed first encoded signal corresponding to one of the successive video pictures, producing the corresponding one of the video pictures from the second encoded signal, otherwise producing the one of the video pictures from the first encoded signal. [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56]

11. As to claim 18, Matsushima teaches each video picture has a time duration; [abstract; fig. 3; fig. 5; col. 8 line 56 – col. 9 line 19; figs. 9-10; fig. 14; col. 20 lines 15-59 col. 21 lines 3-51; col. 22 lines 9-52; col. 23 lines 40-59] and in the generating step, the first encoded signal is delayed by one or more time durations with respect to the second encoded signal. [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56]

12. As to claim 19, Matsushima teaches the step of smoothing the video image during a transition between decoding the received second encoded signal [col. 22 lines 9-52; col. 26 lines 6-34; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] and the received delayed first encoded signal. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14]

13. As to claim 20, Matsushima teaches the smoothing step comprises the step of gradually changing the quality of the content during the transition. [fig. 11; col. 22 lines 3-52]

14. As to claim 21, Matsushima teaches the smoothing step includes introducing hysteresis for transitions. [fig. 6; col. 11 lines 1-62; fig. 11; col. 22 lines 3-52; col. 26 lines 6-34]

15. As to claim 26, Matsushima teaches steps of encoding the first and second encoded signals [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the steps of source encoding the content representative signal, system encoding the source encoded content representative signal, [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] and channel encoding the system encoded content representative signal. [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50]

16. As to claim 31, Matsushima teaches receiving a composite signal comprising first and second encoded signals, [abstract; fig. 3; fig. 5; fig. 7; col. 2 lines 53-65] each encoded signal representing a content representative signal and source encoded to have successive corresponding independent decoding segments, [fig. 3; fig. 5; col. 9 lines 1-19, 42-50; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12

lines 32-66] wherein the first encoded signal is delayed with respect to the second encoded signal, [abstract; fig. 3; fig. 5; col. 8 line 56 - col. 9 line 14] comprising: a demultiplexer, [fig. 6 (14); fig. 7 (14)] responsive to the composite signal, for extracting the first and second encoded signals from the composite signal, [figs. 6-7; col. 10 lines 22-67; col. 12 lines 30-67] and for generating an error signal representing an error in the composite signal; [fig. 7; fig. 6; col. 10 lines 46-65; col. 12 lines 40-67] a selector, coupled to the first and second decoders and responsive to the error representative signal, for selecting an independent decoding segment of the received second encoded signal if an error is detected in the composite signal during at least a portion of the corresponding independent decoding segment of the delayed first encoded signal, and selecting the received delayed first encoded signal otherwise; [abstract; fig. 3; fig. 5; fig. 7; col. 8 line 56- col. 9 line 14; fig. 7 (13); fig. 6 (13); col. 10 lines 46-65; col. 12 lines 40-67; [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] and a decoder for source decoding the selected received encoded signal. [fig. 6; fig. 7; col. 10 lines 46 - col. 11 lines 67; col. 11 lines 36-55]

17. As to claim 32, Matsushima teaches wherein the content representative signal is a video signal [col. 9 lines 30-39; col. 11 lines 51-62] and the selector further comprises circuitry for smoothing the video image during a transition between selecting one of the first and second encoded signals and selecting the other one of the first and second encoded signals. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14; fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52]

18. As to claim 33, Matsushima teaches wherein the smoothing circuit [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52] contains circuitry for gradually changing the quality of the video image from that of one of the received video signals to that of the other one of the received video signals during the transition. [fig. 11; col. 22 lines 3-52]

19. As to claim 34, Matsushima teaches wherein the smoothing circuit comprises: a video quality filter, [fig. 6; fig. 7; col. 10 line 58 - col. 11 line 6] coupled to receive the selected video signal, for generating a video signal having a variable video quality in response to a quality control signal; [fig. 6; fig. 7; col. 10 line 58 - col. 11 line 6] and a selector, coupled to receive the selected video signal and the filtered video signal, and responsive to a transition control signal to couple the video quality filter to produce the filtered video signal during the transition and to produce the selected video signal otherwise. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14; fig. 6; fig. 7; col. 10 line 58 - col. 11 line 6]

20. As to claim 35, Matsushima teaches the smoothing circuit further comprises circuitry to introduce hysteresis for transitions. [fig. 6; col. 11 lines 1-62; fig. 11; col. 22 lines 3-52; col. 26 lines 6-34]

21. As to claim 36, Matsushima teaches each independent decoding segment as a time duration; [abstract; fig. 3; fig. 5; col. 8 line 56 - col. 9 line 19; figs. 9-10; fig. 14; col. 20 lines 15-59 col. 21 lines 3-51; col. 22 lines 9-52; col. 23 lines 40-59; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] in the composite signal, the first encoded signal is delayed by the time duration with respect to the second encoded signal; [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] and the receiver

further comprises a delay, [fig. 6; fig. 7] coupled between the demultiplexer and the selector, [fig. 6; fig. 7] for delaying the received second encoded signal by the time duration, whereby the received first and second encoded signals are realigned in time. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14]

22. As to claim 41, Matsushima teaches wherein the first encoded signal is backwards compatible [fig. 3; fig. 5; col. 9 lines 5-14, 42-50] and the second encoded signal is robust relative to the first encoded signal. [fig. 3; fig. 5; col. 9 lines 5-14, 42-50; encoder encodes the signal with the robust technique creating a lower quality signal]

23. As to claim 43, Matsushima teaches A staggercasting receiver, for receiving a composite signal comprising a first and second encoded signal, [abstract; fig. 3; fig. 5; fig. 7; col. 2 lines 53-65; col. 9 lines 1-19, 42-50] wherein each encoded signal represents a video signal having successive video pictures and the first encoded signal is delayed with respect to the second encoded signal, [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] comprising: a demultiplexer, [fig. 6 (14); fig. 7 (14)] responsive to the composite signal, for extracting the first and second encoded signals from the composite signal, [figs. 6-7; col. 10 lines 22-67; col. 12 lines 30-67] and generating an error signal representing an error in the composite signal; [fig. 7 (13); fig. 6 (13); col. 10 lines 46-65; col. 12 lines 40-67] a first decoder, [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] responsive to the extracted first encoded signal, for generating a first received video signal comprising successive video pictures; a second decoder, [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] responsive to the extracted second encoded signal for generating a second

received video signal comprising successive video pictures; and a selector, coupled to the first and second decoders [fig. 6; fig. 7; col. 10 lines 32-40, 53-65; col. 12 lines 32-66] and responsive to the error signal, for producing a video picture from the second encoded signal if an error is detected in the composite signal during at least a portion of the delayed first encoded signal corresponding to the video picture, and producing the corresponding video picture from the first encoded signal otherwise. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14]

24. As to claim 44, Matsushima teaches the selector further comprises circuitry for smoothing the video image during a transition between selecting one of the first and second encoded signals [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52] and selecting the other one of the first and second encoded signals. [fig. 6; fig. 7; col. 10 lines 46 - col. 11 lines 67; col. 11 lines 36-55]

25. As to claim 45, Matsushima teaches the smoothing circuit contains circuitry for gradually changing the quality of the video image from that of one of the received video signals to that of the other one of the received video signals during the transition. [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52]

26. As to claim 46, Matsushima teaches the smoothing circuit [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52] comprises: a video quality filter, [fig. 6; fig. 7; col. 10 line 58 - col. 11 line 6] coupled to receive the selected video signal, [fig. 6; fig. 7; col. 10 lines 13-65] for generating a video signal having a variable video quality in response to a quality control signal; [fig. 6; fig. 7; col. 10 lines 13-65] and a selector, coupled to receive the selected video signal and the filtered video signal, and responsive to a

transition control signal to couple the video quality filter to produce the filtered video signal during the transition and to produce the selected video signal otherwise. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14; fig. 6; fig. 7; col. 10 line 58 - col. 11 line 6]

27. As to claim 47, Matsushima teaches the smoothing circuit further comprises circuitry to introduce hysteresis for transitions. [fig. 11; fig. 14; col. 26 lines 6 -25; col. 22 lines 3-52]

28. As to claim 48, Matsushima teaches each video picture has a picture period; in the composite signal, the first encoded signal is delayed by a time duration of one or more picture periods with respect to the second encoded signal; [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14] and the receiver further comprises a delay device coupled between the demultiplexer and the second decoder, [fig. 6; fig. 7] for delaying the received second encoded signal by the time duration, whereby the received first and second encoded signals are realigned in time. [abstract; fig. 3; fig. 5; col. 8 line 56- col. 9 line 14]

29. As to claim 53, Matsushima teaches wherein the first encoded signal is backwards compatible [fig. 3; fig. 5; col. 9 lines 5-14, 42-50] and the second encoded signal is robust relative to the first encoded signal. [fig. 3; fig. 5; col. 9 lines 5-14, 42-50; encoder encodes the signal with the robust technique creating a lower quality signal]

Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

31. Claims 6-8,13-16, 22-23, 27-30, 37-39, 42, 49-52 and 54-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Birru et al US 2002/0181581.

32. As to claim 6, Matsushima teaches the limitations of claim 1.

Matsushima does not explicitly teach a clear identification of the independent decoding segments.

Birru teach clear identification of the independent decoding segments. [¶ 0032; ¶ 0035; ¶ 0042]

It would have been obvious one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Birru with the device Matsushima allowing for

33. As to claim 7, Matsushima (modified by Birru) teaches the content is video and the step of encoding one of the first and second video signals [Matsushima - fig. 3; fig. 5; col. 9 lines 1-19, 42-50] comprises the step of source encoding the content representative signal to provide a source encoded signal in which the successive independent decoding segments comprise a group of pictures, which group of pictures may be decoded independently, [Matsushima - fig. 3; fig. 5; col. 9 lines 1-19, 42-50; col. 9 lines 30-39] and the source encoded signal comprises a clear identification of picture

boundaries and a clear identification of which coded pictures are used as reference pictures in the coding of later pictures. [Birru - ¶ 0032; ¶ 0035; ¶ 0042]

34. As to claim 8, Matsushima (modified by Birru) teaches the step of encoding the one of the first and second video signals comprises the step of source encoding the video representative picture using Motion Picture Experts Group (MPEG 2) video compression encoding in which each independent decoding segment is delimited by an intra-coded (I) picture. [Matsushima - col. 9 lines 30-39; well known in the art MPEG 2 supports both intra and inter coding of pictures]

35. As to claim 13, Matsushima teaches the limitations of claim 12.

Matsushima does not explicitly teach signal using 8-VSB modulation.

Birru teaches signal using 8-VSB modulation. [abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the VSB teachings of Birru with the device of Matsushima allowing for backward compatibility with existing receivers. [Birru - ¶ 0012]

36. As to claim 14, Matsushima (modified by Birru) teaches the step of source encoding the first encoded signal comprises the step of encoding the content representative signal using MPEG 2 coding; [Matsushima - col. 9 lines 30-39; fig. 7 fig. 5; Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the step of system encoding the first encoded signal comprises the step of packetizing the source encoded content representative signal using MPEG 2 format packets. [Matsushima - col. 9 lines 30-39; fig. 7 fig. 5; Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

37. As to claim 15, Matsushima (modified by Birru) teaches wherein the step of encoding the second encoded signal comprises the step of channel encoding the system encoded content representative signal using one of 4-VSB or 2-VSB modulation. [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

38. As to claim 16, Matsushima (modified by Birru) teaches the step of source encoding the second encoded signal comprises the step of encoding the content representative signal using JVT coding; [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the step of system encoding the second encoded signal comprises the step of packetizing the source encoded content representative signal using MPEG 2 format packets. [Matsushima - col. 9 lines 30-39; fig. 3; figs 5-7]

39. As to claim 22, Matsushima (modified by Birru) teaches encoding one of the first and second video signals [Matsushima - fig. 3; fig. 5; col. 9 lines 1-19, 42-50; col. 9 lines 30-39] comprises the steps of source encoding the content representative signal to provide respective a source encoded signal having a clear identification of the video pictures. [Birru - ¶ 0032; ¶ 0035; ¶ 0042]

40. As to claim 23, Matsushima (modified by Birru) teaches source encoding the one of the first and second video signals comprises the step of source encoding the video signal using Motion Picture Experts Group (MPEG 2) video compression encoding in which each independent decoding segment is delimited by an intra-coded (I) picture.

[Matsushima - col. 9 lines 30-39; well known in the art MPEG 2 supports both intra and inter coding of pictures]

41. As to claim 27, Matsushima (modified by Birru) teaches the step of encoding the first encoded signal [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the step of channel encoding the system encoded content representative signal using 8-VSB modulation. [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

42. As to claim 28, Matsushima (modified by Birru) teaches the step of source encoding the first encoded signal [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the step of encoding the content representative signal using MPEG 2 source encoding; [Matsushima - col. 9 lines 30-39; fig. 7 fig. 5; Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the step of system encoding the first encoded signal comprises the step of packetizing the source encoded content representative signal using MPEG 2 format packets. [Matsushima - col. 9 lines 30-39; fig. 7 fig. 5; Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

43. As to claim 29, Matsushima (modified by Birru) teaches the step of encoding the second encoded signal [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the step of channel encoding the system encoded content representative signal using one of 4-VSB or 2-VSB modulation. [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

44. As to claim 30, Matsushima (modified by Birru) teaches the step of source encoding the second encoded signal [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the step of encoding the content representative signal using JVT

coding; [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the step of system encoding the second encoded signal comprises the step of packetizing the source encoded content representative signal using MPEG 2 format packets. [Matsushima - col. 9 lines 30-39; fig. 7 fig. 5; Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

45. As to claim 37, Matsushima (modified by Birru) teaches wherein in the composite signal, each independent decoding segment in both the first and second encoded signals is clearly identified. [Birru - ¶ 0032; ¶ 0035; ¶ 0042]

46. As to claim 38, Matsushima (modified by Birru) teaches the first encoded signal is source encoded using a first encoding technique and the second encoded signal is source encoded using a second encoding technique different from the first encoding technique; [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031 and the decoder is a multi-standard source decoder for decoding both the first and second encoding techniques. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 10 lines 46 - col. 11 lines 667; col. 11 lines 36-55; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

47. As to claim 39, Matsushima (modified by Birru) teaches wherein one of the first and second source encoding techniques is Motion Picture Experts Group (MPEG 2) video compression encoding in which each independent decoding segment is a group

of pictures delimited by an intra-coded (I) picture. [Matsushima - col. 9 lines 30-39; well known in the art MPEG 2 supports both intra and inter coding of pictures]

48. As to claim 42, Matsushima (modified by Birru) teaches the first and second encoded signals [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] are further system encoded and channel encoded, [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] and further comprising: a channel decoder, responsive to the composite signal, for demodulating the first encoded signal using 8-VSB demodulation, [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and for demodulating the second encoded signal using one of 4-VSB or 2-VSB demodulation; [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the decoder further system decodes the channel decoded first and second encoded signals before source decoding the first and second encoded signals. [fig. 3; fig. 5; fig. 7; col. 9 lines 1-19, 42-56; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66]

49. As to claim 49, Matsushima (modified by Birru) teaches the composite signal, each video picture in both the first and second encoded signals is clearly identified. [Birru - ¶ 0032; ¶ 0035; ¶ 0042]

50. As to claim 50, Matsushima (modified by Birru) teaches the first encoded signal is encoded using a first encoding technique[Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the second encoded signal is encoded using a second encoding technique different from the first encoding technique. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39-

discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

51. As to claim 51, Matsushima (modified by Birru) teaches one of the first and second encoded signals is source encoded using Motion Picture Experts Group (MPEG 2) video compression encoding, and the corresponding one of the first and second decoders comprises an MPEG 2 source decoder. [Matsushima - col. 9 lines 30-39; well known in the art MPEG 2 Matsushima (modified by Birru) teaches one of the first and second encoded signals is source encoded using joint video team (JVT) video compression encoding, [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the corresponding one of the first and second decoders comprises a JVT source decoder. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

52. As to claim 52, Matsushima (modified by Birru) teaches wherein one of the first and second encoded signals is source encoded using joint video team (JVT) video compression encoding, and the corresponding one of the first and second decoders comprises a JVT source decoder. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

53. As to claim 54, Matsushima (modified by Birru) teaches the first encoded signal is channel encoded using 8-VSB modulation [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the second encoded signal is channel encoded using one of 4-VSB or 2-VSB modulation; [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the receiver further comprises a channel decoder for decoding the first encoded signal using an 8-VSB demodulator [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the second encoded signal using one of a 4-VSB or 2-VSB demodulator. [Birru - abstract; fig.2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

54. As to claim 55, Matsushima (modified by Birru) teaches the first encoded signal is further source encoded using MPEG 2 source encoding and system encoded using MPEG 2 packet formats and the second encoded signal is further source encoded using JVT source encoding and system encoded using MPEG 2 packet formats; [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] the first decoder comprises an MPEG 2 system decoder and an MPEG 2 source decoder; [fig. 3; figs. 5-7; col. 9 lines 1-39; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] and the second decoder comprises an MPEG 2 system decoder and a JVT source decoder. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

55. Claims 9-10, 24, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Birru et al US 2002/0181581 further in view of Au US 6,646,578.

56. As to claim 9, Matsushima (modified by Birru and AU) teaches the content is video and the step of encoding one of the first and second video signals [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] comprises the step of source encoding the content representative signal to provide a source encoded signal [Matsushima - fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] independent decoding segment may be decoded independently, [fig. 3; fig. 5; col. 9 lines 1-19, 42-50; fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65; fig. 7(15a, 15b); col. 12 lines 32-66] and the source encoded signal comprises a clear indication. [Birru - ¶ 0032; ¶ 0035; ¶ 0042]

Matsushima (modified by Birru) does not explicitly teach an instantaneous decoding refresh (IDR) frame and slice data.

Au teaches instantaneous decoding refresh (IDR) frame and slice data. [col. 8 lines 6-19]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Au which is in the same field of endeavor with the device of Matsushima (modified by Birru) allowing for improved coding efficiency.

57. As to claim 10, Matsushima (modified by Birru and Au) teaches encoding the one of the first and second video signals comprises the step of source encoding the video representative picture using joint video team (JVT) video compression encoding in which each independent decoding segment is delimited by an instantaneous decoding

refresh frame. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031; Au - col. 8 lines 6-19]

58. As to claim 24, Matsushima (modified by Birru and Au) teaches The method of claim 22 wherein the step of source encoding the one of the first and second video signals comprises the step of source encoding the video signal using joint video team (JVT) video compression encoding in which each independent decoding segment is delimited by an instantaneous decoding refresh picture. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031; Au - col. 8 lines 6-19]

59. As to claim 40, Matsushima (modified by Birru and Au) teaches one of the first and second source encoding techniques is joint video team (JVT) video compression encoding in which each independent decoding segment is delimited by an instantaneous decoding refresh frame. [Matsushima - fig. 5; fig. 3; fig. 7; fig. 9; col. 9 lines 30-39- discloses or the like which is suitable for digital broadcast which inherently include JVT; Birru - abstract; fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031; Au - col. 8 lines 6-19]

60. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Yun US 6,700,624.

61. As to claim 25, Matsushima teaches the limitations of claim 17.

Matsushima does not explicitly teach storing decoded video pictures.

Yun teaches storing decoded video pictures. [fig. 7 (600 and 600-1); col. 5 lines 42-60; - it is well known in the art that a frame buffer is a video output device that drives a video display from a memory buffer containing a complete frame of data. Therefore, it is well known in the art that a frame buffer is a required component of the decoder for displaying of video data.]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Yun with the device of Matsushima allowing for viewer selection of preferred viewing quality of transmitted video.

Conclusion

62. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hannuksela US 7,403,660.

63. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2621

/Tung Vo/
Primary Examiner, Art Unit 2621